

REMARKS

Double Patenting

The Examiner provisionally rejected Claims 1-8, 10 on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-6, 8 and 12 of copending Application No. 10/664,405 and provisionally rejected Claims 1-3, 5-8 and 10 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 6-9, 11 and 12 of copending Application No. 10/664,818.

Applicant has canceled claims 1-10.

35 U.S.C § 102

The examiner rejected Claims 1, 2 and 5-10 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,645,651 to Hockaday ("Hockaday").

Applicant has canceled claims 1-10.

35 U.S.C § 103

The Examiner rejected claims 3, 11-20, 22-30, 32 and 33 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,645,651 to Hockaday et al. ("Hockaday") in view of U.S. Patent No. 5,069,793 to Kaschemekat et al. ("Kaschemekat").

The Examiner rejected Claim 4 under 35 U.S.C. 103(a) as being unpatentable over Hockaday in view of U.S. Patent No. 5,681,467 to Solie ("Solie").

The Examiner rejected Claims 21 and 31 under 35 U.S.C. 103(a) as being unpatentable over Hockaday in view of Kaschemekat as applied to claims 11 and 24 above, and further in view of U.S. Patent No. 6,207,369 to Wohlstadter ("Wohlstadter").

Claim 11

The Examiner states:

Hockaday as discussed above is incorporated herein and U.S. Pre-Grant Publication No. 200110049045 further teaches the use of methanol-impermeable coatings on housing walls (paragraph [0041]).

Hockaday does not teach that the composite membrane has a coating of a methanol-impermeable material on one surface.

Kaschemekat teaches a spirally wound multi layer composite membrane comprising a porous substrate (i.e. web), a membrane disposed on a first surface of the substrate (i.e. microporous substrate membrane) and a coating that is a permselective polymer on the other surface of the substrate and said multi layer composite membrane can be a plurality of membranes (column 1, lines 11-52, column 10, lines 33-64 and example 1). Kaschemekat further teaches that different polymers can be chosen for their specific selectivity.

Applicant disagrees and contends that the combination of Hockaday with Kaschemekat neither describes nor suggests "a coating of a methanol-impermeable material disposed over an opposite surface of a substrate." The examiner admits that Hockaday neither describes nor suggests this feature and relies on Kashemekat. In response to Applicant's previously filed arguments that none of the layers in the membrane described by Kaschemekat is methanol impermeable, the Examiner alleges that the Applicant provides no evidence to show as such:

...applicants do not recite the specific material used for the methanol impermeable coating and provide no evidence to show that none of the permselective coatings of Kaschemekat will be methanol impermeable. The instant disclosure states that "cross-linked rubber, a polymer/inorganic composite, a surface treated material such as surface fluorinated high density polyethylene, or other methanol-impermeable material" are considered methanol impermeable materials. Kaschemekat discloses at least silicon rubber and fluoroelastomers both of which fall under the genres of applicants' instant specification and therefore it is submitted that the permselective material of Kaschemekat will be methanol impermeable as evidence by applicants' instant disclosure.

Applicant disagrees with these contentions. Applicant's arguments filed 12/10/2008 clearly shows that both sides of the membrane described by Kaschemekat are required to be permeable to methanol. By establishing a permeability requirement of both sides of the Kaschemekat membrane, Applicant has shown that none of the sides of the membrane can be methanol impermeable. However, for the convenience of the Examiner, Applicant presents further teachings from Kaschemekat that proves Applicant's contentions.

The Examiner construes the permselective polymer membrane of Kaschemekat as the methanol impermeable membrane as recited in independent claim 11. Applicant disagrees and

submits that the permselective polymer membrane of Kaschemekat is not methanol impermeable as required by independent claim 11. Rather, Kaschemekat requires all layers of the membrane to be methanol permeable in order to function. The membrane in Kaschemekat has a feed side and a permeate side¹. A liquid mixture fuel is in contact with the feed side of the membrane. The liquid fuel *passes through* the membrane and is removed in vapor form from the permeate side. As described by Kaschemekat²:

One or more of the feed liquid components pass through the membrane and are withdrawn in vapor form on the permeate side.

Kaschemekat further describes ensuring that there is no vapor transferring communication between the two sides of the membrane except *through* the membrane³:

Glue is used to seal the ends and edges of the module, and to ensure that there is no vapor-transferring communication between the feed and the permeate sides of the membrane, except through the membrane.

Therefore, both sides of the membrane described in Kaschemekat is required to be permeable to the fuel either in a liquid or a vapor state. If one of the membranes in Kaschemekat is impermeable to methanol fuel, methanol will not reach the permeate side from the feed side thus rendering the membrane useless. Hence, modifying Hockaday with a methanol impermeable layer is not a matter of obvious design choice as contended by the Examiner at least because Kaschemekat has no such teachings. Rather that teaching is only gleaned from Applicant's claims and/or specification and it thus an example of improper hindsight reconstruction.

Therefore, Hockaday and Kaschemekat, whether taken individually or in combination, neither describe nor suggest at least a coating of a methanol-impermeable material disposed over an opposite surface of a substrate.

Claim 11 is patentable over Hockaday and Kaschemekat for at least the foregoing reasons.

Claims 12-23 are patentable for at least the reasons for which claim 11 is patentable.

¹ Kaschemekat, Col. 11, lines 40-42.

² *Id.*, Col. 4, lines 40-42.

³ *Id.*, Col. 11, lines 40-42.

Claim 24

Claim 24 is patentable for at least similar reasons mentioned with respect to claim 11. Claims 25-33 are patentable for at least the reasons for which claim 24 is patentable.

It is believed that all the rejections and/or objections raised by the examiner have been addressed.

In view of the foregoing remarks, applicant respectfully submits that the application is in condition for allowance and such action is respectfully requested at the examiner's earliest convenience.

All of the dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

No fees are believed to be due. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: February 20, 2009

Denis G. Maloney/
Denis G. Maloney
Reg. No. 29,670

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110
Telephone: (617) 542-5070
Facsimile: (877) 769-7945